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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,356	10/17/2003	William Freeman	15436.54.1	2295
22913	7590	05/03/2005	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			TRA, TUYEN Q	
			ART UNIT	PAPER NUMBER
			2873	

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/688,356	Applicant(s) FREEMAN ET AL.	
	Examiner Tuyen Q. Tra	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-20 is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

**Claim Rejections - 35 USC § 102**

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamada (U.S. Pat. 6,353,494 B1).

a) With respect to claims 1 and 3, Hamada discloses Optical voltage sensor in Figure 1 comprising of at least one polarizing element having an optical polarization axis, wherein the polarizing element (item 1) transmits a portion of a light signal proportional to the angular difference between the optical polarization axis of the light signal and that of the polarizing element; and a semi-transparent electrochromic device (item 3); and a plurality of electrodes (on top/bottom, not numbered) configured to conduct electricity to the electrochromic device such that the transparency of the electrochromic device (3) will be affected by an amount proportional to the magnitude of the electricity applied to the plurality of electrodes, inherently the intensity of the light signal transmitted through the electrochromic device is affected by an amount proportional to the magnitude of the electricity applied to the plurality of electrodes (col. 11, lines 44-67).

b) With respect to claims 2 and 6, Hamada further discloses wherein the polarizing element comprises a polarizer having a linear optical polarity.

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c) With respect to claims 4, 5, 7 and 8, Hamada further discloses wherein the laser comprising a semiconductor laser or a gas laser; a distributed feedback laser; a window or lens interposed between the laser and the variable electrochromic optical attenuator and further comprising of transceiver package.

**Allowable Subject Matter**

3. Claims 9-20 are allowed.

The reason for the indication of allowable subject matter is that (claim 9) a faraday rotator in optical communication with the first polarizing element and comprising: a semi-transparent material; and a magnetic material at least partially surrounding the semi-transparent material and configured to apply a magnetic force to a light signal that is passed through the semi-transparent material; and a second polarizing element in optical communication with the faraday rotator and having an optical polarization axis, wherein the second polarizing element transmits a portion of an incident light signal proportional to the angular difference between an optical polarization axis of the incident light signal and that of the second polarizing element; (claim 20) method of directing the light signal from the first polarizing element to a faraday rotator, the faraday rotator comprising: a semi-transparent material; and a magnetic material at least partially surrounding the semi-transparent material; and directing the light signal from the faraday rotator to a second polarizing element disclosed in the claims is not found in the prior art.

### Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Chen et al. (US Patent 6,522,456B2) discloses a dynamic optical filter with teaching of polarizer (510, 520), a retarder (126), a electrode (125), a magnetic (521,522).

b) Reeder (US Patent 6,437,904 B1) discloses waveplate polarization rotator in Figure 1 with polarizers (16, 20) and a waveplate (18).

c) Zou et al. (US 6,700,694 B2) discloses a ferro-electric azimuth rotator comprising of n electrically controllable azimuth optical rotator (10) includes a first quarterwave plate (16) for receiving a first beam of electromagnetic energy (22) having a first arbitrary polarization state, and outputting a second beam (122) in response to the first quarterwave plate (16).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (571) 272-2343. The examiner can normally be reached on Monday to Thursday from 8:30am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (571) 272 - 2328. The fax number for this Group is (703) 872-9306.

tt

April 27, 2005

  
Hung Xuan Dang  
Primary Examiner